
Index

- absorptive capacity 183, 211–19
- academic entrepreneurship and incubation 452–4
- Academic Ranking of World Universities 319, 324
- adaptability of firms 185, 240–41, 243, 250, 257, 373
- Africa 521, 568
- agglomeration 31
 - disequilibrium theory and 61–3
 - economic activity spatially unevenly distributed 54
 - emphasis on localized knowledge spillovers 65
 - general equilibrium theory and 59–61
 - information-rich contact and 122
 - innovative outgrowth 29
 - internationalization and 30–31
 - location theory and 56–8
 - scale economies and 55–6
- agglomeration economies, linkages across regions neglected 143, 148
- agglomeration externalities, stem from specialization 144, 151
- Airbus aeroplanes, servicing and 382–3
- alliance formation, twofold motives 223
- alternative model of economic development 65
- Amazon.com 369
- American competitiveness in international trade 68, 381
- anchoring 105–6, 167, 170–76, 184, 267, 322
- anti-nuclear energy discourse 11
- Apple 30, 410, 582, 591, 594
- Asia 8, 94, 323, 409, 521
- asymmetric knowledge capabilities 50
- ATMs (automatic teller machines) 366
- Austin, Texas (green policies) 434
- Australia 287, 521
- Austria 161, 312, 355, 538
- autopoiesis or self-organization 19
- average wage, measure of productivity 127

- behavioural economics, non-rational behaviour and 345
- Belgium 321, 516
- ‘best practices’ 370, 600, 605–6
- biotechnology 4, 6, 7, 106, 137–8, 148, 171, 385
 - clusters 294, 296, 307, 317, 320–34
 - firms 333, 385–9, 396, 411–12, 457
 - medical 412
- black box 135, 140, 141, 230
- Boston 161, 317, 322, 385, 385–7, 386–7, 395, 412
- Boston’s Route 128 248–50, 259, 315, 318, 498
- bounded rationality, uncertainty and 534
- Brazil 243, 408, 416, 440, 453, 516
- broadband access, less populated places 286
- budget airlines, service industry innovation and 381
- ‘building boom’ 378
- business angels, investment capital 499, 502
- business-cycle conference, Schumpeter (1949) 32–3

- California 250, 283, 286, 549
- Californian school 159, 248, 250
- Cambridge 20, 319, 375, 386–7, 412, 415
 - biotech industry 170, 257, 324, 386, 481, 514
 - research 318–19, 321–2
- Canada 412, 428, 434
- capabilities accumulation, identification of commonalities 146
- capitalism
 - emergence and evolution of 8
 - evolutionary development under 55
 - fuelled by innovation 3
 - regional varieties 183
 - waveform evolution of 12
- capitalist system, new knowledge a zero-sum game 551
- Cardiff University, Networks of Innovators 2
- catastrophic agglomeration, overconcentrated spatial results 5
- Cayman Islands 373
- CBS Labour Force Survey employment data 125
- Center for Information Technology Research in the Interest of Society (CITRIS) 375
- centrality of learning, knowledge frontier moving rapidly 446
- Centre for Innovation and Entrepreneurship (CIE) 507
- Centres of Excellence 395
- Chilean wine cluster 229
- China 30, 91, 258, 320, 407, 410, 453
 - FDI 412, 414–15

- science parks 323
- technological incubators 516
- climate change crisis 304
- 'Cluster Chairs', to promote regional innovation transversality 311
- cluster concept 246, 306
- cluster development, policy planning at 'governance' level 51
- cluster literature, role in bridging capabilities 149
- cluster model, versus regional innovation platform model 565–6
- cluster policies 175, 289
- cluster renewal, regional regime governance and 267
- cluster theory, challenged by role of innovations 569
- cluster-management team 20
- clusters 293–4, 298–9, 300
- co-evolutionary transition, envisages market niches 438
- co-invention networks, role of 138–9
- coaching and mentoring 506–11
- coal mining regions, acid test in 16
- Cobb–Douglas production function 132–3
- cognitive approach 107–8, 111–13, 115–16
- collective learning process 4, 46, 49, 108, 114, 224, 318
- combinations of knowledge, innovation platforms 51
- communication cost, scale and 122
- communication techniques 285–6
- comparative advantage 13, 29, 224, 240–41
- comparative statics, Schumpeter's evolutionary version 35
- comparing different networks 161
- competence theories, link with comparative advantage 240
- competition 10, 33, 35–6, 38–9, 48–9, 59–60, 241, 452
- 'Competitive Capitalism', 'Trustified Capitalism' 40
- competitiveness 109, 185, 234, 238
- computerization, 'epochal' innovation 14, 17
- computers 44, 249, 283, 296, 360, 381, 487
- concept of regional innovation governance 534–40
- conceptual framework for advanced regional innovation policy practice 574
- conclusions and further research 584–5
- dramaturgy 578–9
- matrix methods 581–3
- orchestration 579–80
- platforms 577–8
- policy theory concepts 578
- recombination 575–6
- related variety 574–5
- structural holes or white spaces 576–7
- transversality 580–81
- constructing regional advantage (CRA) 309
- constructive advantage, impact of open innovation strategies on regional growth 397
- contemporary globalization, innovation challenges and 81–3, 87
- 'convention proximity', 'convention radius' 453
- conventions, definitions 339–40, 344
- conventions and relations, interchangeable 343–4
- Cornwall, automotive engineering 182
- counterfeit brands and misleading advertising 83
- creative capacity of culture (CCC) 350
- 'creative destruction' 15, 32, 303, 437
- 'creative disruption', agglomeration housing innovations 104
- creative industries 384
- creative industry innovation rates 385
- creativity, thrives with face-to-face interaction 290
- Cuba, bioscience cluster 248, 258
- cultural approaches, relations between cognition and behaviour 346
- 'cultural economy' 247
- cultural influences on firms' learning and innovative behaviours 254–6
- cultural milieu, exist in regions with innovation 253
- 'cultural turn' 247
- cultural–economic relationships, demystifying 253, 259
- culture 168, 255, 350–52, 354, 359
- Culture and Regional Embeddedness (CURE) 19
- cumulative mutation/adaptation 206
- 'customized innovation' 367
- cyclical replacement/regeneration 206
- Danish Technological Institute 444
- 'death of distance' 285
- Delft 317
- Delhi 412, 428, 430
- demand-driven innovation 10, 68, 588–9
- dematuring IDs 86
- 'democratization', personal computers 17
- Denmark 11, 80, 193, 339, 403, 428, 462, 505, 536, 593
- Copenhagen and 434
- wind turbines industry 17, 310, 442, 444

- deregulation, deindustrialization and 588
- design, definition 13–14
- ‘design paradigm’, speeds up application of what began life 19
- design-driven innovation 8–9, 13, 30, 286, 449, 587–8, 590–91, 594
- design-related activities (KIBS), service industries and 335
- developing countries, could be innovative 258
- different venture capital, different geographies 498–500
- digitization, credit cards and 28
- diminishing returns from partnerships 310
- direct-foreign-investment activities, so-called product cycle 69
- dirigiste systems of governance 536–7
- disadvantaged regions, lack diverse set of actors 544
- discontinuous adjustment 84, 88
- disruptive innovation, sustaining innovation and 13
- disruptive technologies, ‘window of opportunity’ 538
- distance, two basic features of 557
- distance decay factor 71
- diversity 104, 106, 143
- division of labour 32, 54, 56, 58, 222–3, 246, 541
- dominant design 69, 72, 75
- domination thesis, key sectors of ‘*industrie motrice*’ 61
- dominant firm, keeps temporary monopoly profit 62
- dramaturgy 583–4, 590
- Dublin, gendered work–life conflict in 257–8, 410
- Dutch government, service innovation 367, 375
- Dutch State Mining (DSM), diversification 16
- dynamic competitiveness of a region, depends on adaptability 241
- dynamic force of innovations, Schumpeterian understanding 61
- dynamic forces, economies arrived through 54
- dynamic knowledge exchange 459
- dynamics of proximity in spatial innovation 272–7
- ‘ease of learning’ 212
- East Germany, ‘regional experimentalism’ 19
- Eastern Europe 8, 91, 218
- economic activities, effect of proximity and human contacts 63
- economic context of (2007–09) 309–10
- economic crisis, connected to globalization 304
- economic geographers, need to know conventions and knowledge 347
- economic geography, future of 32
- economic growth 61, 64, 107, 482
- economic revolution, irreversibility of 28
- economic and spatial planning 15
- economy of cities, Jane Jacobs’s work 50, 143–4, 147, 151
- electrification epoch, R&D labs and 18
- embedded clusters, competitiveness of firms and competitive advantages 54
- embeddedness 172, 174, 227, 251
- emerging economies, innovative systems in 423
- employees, most change jobs within same economic area 191
- employment dynamics, caused by technological change 145
- enabling and enhancing open innovation 397
- ‘end of mass production’ 541
- endogenous growth 60, 104, 144, 601–3
- energy crisis 304
- ENP 505, 507, 511–12
- entrepreneur
- active intermediary 15
 - in driver’s seat not the coach or mentor 509
- entrepreneurial regional innovation systems (ERISs) 323, 457
- entrepreneurs 484–6
- entrepreneurship
- conduit of knowledge spillover 226
 - geography of 482
 - interaction of individuals with environment 490
 - key transfer mechanism 192
 - leads to economic growth 490
 - peers matter in two ways for 486
 - promoting done in different ways 506
 - risky business in dangerous environment 483
 - tolerance of failure necessary for 315
 - what it depends on 484
 - why clusters foster 487
- Entrepreneurship and New Business Development Programme, *see* ENP
- entrepreneurship and venture capital 451–2
- entropic uniformity, milieu death and 114
- ‘environment’ 438
- episodic radical innovations 14, 182–3
- epochal passages of incremental innovation 13, 183
- equilibrium, based on the railroad 37
- EU 8, 69, 150, 211, 230, 290
- academic commission 303
 - Community Survey 380, 384
 - Lisbon Strategy (2000), major trends 600
 - policies to ease firms’ access to capital 496

- EU-25 proximity for 228
- Europe 150, 158
 - decentralization (1980–2010) 50
 - distance knowledge can travel 228, 230
 - Eureka and development R&D 284
 - four major flaws deployed in regions 479–81
 - governance types in 536
 - incubators and 452, 516, 521
 - islands of innovation 318
 - low profile for venture capital 320
 - nanotechnology 317
 - policies to build cooperation and trust 282
 - regional policy 548
 - Silicon Valley reactions in 322
 - universities and open innovation and collaboration with industry and 393
- European Commission, three factors for innovation 599
- Euroregion 462
- evolutionary economic geography 6, 120, 181, 194, 439
- examples of service innovation 367–8
 - contract R&D services 371–2
 - financial innovation 372
 - logistic innovation 370
 - retail innovation 368–9
 - tourism innovation 370–71
 - user-led innovation 369–70
- experiential learning 486
- 'exploitation subsystem', denotes variety 19
- export flows 94
- externalities in Perroux's mind, dynamic force 62
- failure, fear of might deter new firm set-up 489
- failures at micro-level, social benefit at aggregate level 483
- FDI 82, 94–6
 - automotive industry and 409
 - China and 337, 430
 - conducted by multinational corporations (MNCs), 406
 - inward and outward 149
 - magnetism of 424
 - policies and direct sponsorship 421
 - regions that have attracted 412
- fifth Kondratieff wave 366
- filtering down 73–4
- financial capital, supply spatially skewed 495
- financial crisis 304
- Finland 17, 188
 - developmental policy trajectories in 304–5
 - innovative platform methodology 533
 - region of Lahti 308–9, 564–9, 568–9, 570, 578–9
 - Turku and 321
 - venture capital 499
- firm-level studies 214–16
- 'first-mover' advantage 295
- first-movers, clusters and 316
- 'flagship catalysts' 171
- 'flexible specialization' 30
- foreign direct investment, *see* FDI
- foreign partners 83, 88
- fossil fuels paradigm, renewable fuels paradigm and 1
- framework, geared to EU 'NUTS 2' level 597
- France 2, 16–17, 321–2, 516, 537, 597
 - IDs 80
 - Sophia-Antipolis 161
- free-riders 223, 387
- French research group (GREMI) 2, 157
- French School of Proximity 269, 271–2, 277
- function-based approach 109, 115
- game theory and spatial competition, Harold Hotelling and 60
- gatekeepers 284
 - role in absorptive capacity 215, 218
- general equilibrium modelling, evolutionary dynamics of Marshall's externalities and 60
- geographical proximity
 - advantage to service platforms 387–8
 - coordination through proximity 271–2
 - ease of communication and 68
 - 'external economies' of industrial clustering 58
 - favours collaboration and cooperation and 470
 - important for regional entrepreneurship 451
 - innovation and 48, 269
 - interinstitutional fit 29
 - local forms of learning and 553
 - matters for innovation 269–71
 - matters in mediating knowledge spillovers 139
 - may be determinate of M&As 191
 - moulded by relational proximity 265
 - productivity gain and 4
 - regional services innovation variations 382
 - tacitness gives *raison d'être* 185
 - three key advantages for service industries 388
- geographical scale, weakness in understanding by Porter 305
- geographical and socio-cultural proximity 31
- geographical space, major function of 145–6

- geography
 matters in labor markets 288
 mediating knowledge flows 138
 geography of innovation 132
 German–Polish cross-border area, obstacles to 463
 Germany 2, 8, 16, 193–4, 304, 321, 369
 Baden-Württemberg 144, 150, 457, 536, 538
 Bavaria 382, 532
 Bayern Innovativ (BI) 312
 Canada and 256
 coordinated market regime 529
 Leipzig's media cluster 199
 Munich high-tech region 322
 national innovation during Industrial Revolution 420
 Ruhr Area industrial decline 553
 technological incubators 516
 Giddensian thinking 451
 Glass–Steagal Act, repealed by Clinton 9
 globalization 30–31, 48, 78
 anchoring and 173
 can produce new geographic space 97
 challenges and opportunities 175
 competition from newly industrialized countries 270
 economic crisis and 304
 forces networks to look for international strategies 225
 ineluctable process 234–5
 neo-Marshallian industrial districts and 106
 service innovation and 373–4
 urbanized vision of world 351
 venture capitalism initiatives and 91
 good specialization, machine specialization 86
 governance, definitions 535–6
 governance of regional innovation, mix of public and private organizations 49
 government policies, market failures and 51
 Greater London metropolitan region 124
 'green innovation' 205, 338, 439
 'green' products and services 383
 green regional niches 439–40
 from clusters to green regional innovation system 442–4
 green visions 440–42
 greenhouse gases (GHGs) 434
 GREMI (French research group) 2, 157, 270, 552
 'innovative milieu' 251
 Grenoble 317, 321–2
 growing clusters, firms benefit from information 296
 growth
 land rent theory of 29
 regional 74
 regional innovation and 103
 social process 3
 growth 'pole' concept, focus on technological change 62
 'hard' agglomeration economies, 'traded' material linkages 246
 'hard' economic institutions, patterns of economic growth 247
 Harvard Multinational Enterprise Project 1965, FDI and 68
 heterogeneity
 leads to 'creative abrasion' 224
 shown 91
 'high cultural' hubs, culturally distinctive 335
 high-income regions, produce 'new' products continuously 70
 high-skilled labour, effects of 130
 high-tech industries, cause less pollution than traditional 514
 higher-skilled workers, lower costs and higher returns from migration 124
 history of concept of absorptive capacity 211
 in development literature 212
 extensions to the concept 213–14
 as firm-level concept 212–13
 'how radical is radical?' 11, 182
 HP and chipset designer Weitek, partnership between 392
 human capital 119
 decisions 122
 effect 125
 endogenous source of economic growth 123
 'flow through' role of university system 124
 lagged effect of education 127
 mobility is international 124
 regional knowledge base and 129
 human capital variable, often operationalized 215
 Human Genome project 387
 hydrocarbons
 challenge of turning to clean technology 595
 price rises in 304
 IBM and Siemens, service activities 364, 367, 369
 ICT 5, 96, 148, 170, 225, 272, 276, 311, 444, 587
 Illinois Central Railroad 34–5
 IM and MID models 168–9
 imperfect competition, 'dynamic effect' 61

- 'increasing returns', path-dependent positive 'lock-in' 29
- increasing returns to scale, Marshall's focus on 61
- 'incubation hypothesis', urban economies and 488
- India 91, 258, 320, 393, 413, 419, 425–30
 - Bangalore, international IT companies 428
 - Bollywood 354
 - brain drain with Silicon valley 337
 - car industry 583
 - education in English 425, 427
 - Foreign Exchange Regulation Act (FERA) 426
 - 'latecomer' obstacles 424, 426
 - regions lack venture capital 430
 - semiconductor and software business 425
- India's innovation systems 424–5
 - IIS development 428–9
 - NIS development 425–7
 - RIS development 427–8
- industrial agglomerations, three overlapping critiques 249
- industrial districts
 - egalitarian societies 295
 - strength tied to exchange of information 283
- industrial districts (IDs) 78–9, 87
 - firms in have two distinct typologies 94–5
 - internationalization of 92
 - lack of social and business consensus 87
 - modern and distance-learning processes 91
 - organizational form 90
- industrial revolution, spatial concentration of economic activities 54
- industrialized countries, polarization 110
- industry-focused evolution from path-dependence 16
- Information Age, universities and academic entrepreneurship 18
- information and communication technology, *see* ICT
- Innovating Regions in Europe (IRE) network 599
- innovation
 - across 15 nations 46–7
 - definitions 17, 531
 - 'democratization' of 13
 - depends on growth 3–4
 - engine of economic growth 155
 - geographic proximity and 284
 - grounded in intergenerational transfers of know-how 252
 - inclusiveness spurs 290
 - interactive learning and 46
 - land use and transport interconnections 1
 - locational advantages in 394
 - measured by patents and competitive exports 318
 - neo-Schumpeterian perspective 184
 - new firms as useful devices for 482
 - nothing automatic about 38
 - Schumpeterian definition 148, 573
 - specialist professionals to manage 14
 - two forms to yield something new 597–8
 - where demand for new products highest 70
- innovation governance, requires learning experience 543
- innovation and growth 145
- innovation system
 - relationships among components 45
 - seven functions 470
- innovation systems: concept and scales 419–20
 - international innovation system 423
 - national innovation system 420–21
 - regional innovation system 421–3
- innovation and technical progress, complex set of structures 43
- innovative activity, returns on concentration of 110, 116
- innovative capacities, do not operate in isolation 51
- innovative 'ecosystem', gaining pace 468–9
- innovative governance, four different dilemmas of RIS 542–3
- 'Innovative Materials', vehicle and new materials manufacturers 312–13
- innovative milieu, definition of 252
- innovative milieux (IMs), 'sets of localised players' 168
- innovative networks: new approaches 160–62
- innovative networks 160
 - focus on regional networks 155, 162
- 'innovative paradox', place-based innovation and 607
- innovative processes
 - many triggers 559
 - systemic nature of 109
 - uncertainty and 114
- innovator, monopoly and scale economies, demand increases 68
- inside technology clusters 316–17
 - advantages of urban areas 317–19
 - dispersion of R&D: centres of excellence 320–21
 - importance of venture capital 319–20
 - universities: key institutions of technology clusters 319
- institutional proximity 462
- institutional regional innovation systems (IRIS) 457

- institutional thickness
 - four elements of 252
 - three overlapping frameworks 252–3
- 'institutional turn in regional development studies' 540
- institutional venture capital firms, metropolitan areas 499
- insurance services, innovation services and 381
- intellectual capital reports, complement financial reporting 29
- intellectual property 371–2
- intellectual property (IP) blocks 429
- intellectual property rights 452
 - capabilities idea and 146
- interactive learning 2, 29, 46, 90, 106–7, 143, 147–8, 187, 323, 394, 394–5, 587
- interconnectedness of firms, increases over time 194
- internal scale economies, diminishing marginal cost of production 58
- internalization and recontextualization 184
- International Association of Science Parks (IASP) 322–3
- International Computers Limited (ICL) 364
- international innovation system (IIS) 423
- internationalization, models of 94
- international venture capital investments, done in syndication 497
- Internet and email 225
- Internet, the 368–70
 - software designers and 590
- interregional growth rates, more sensitive than international 238
- intra-industry spillovers 144–5
- inward-looking RIS, negative lock-in situations 301
- Ireland 171, 408–11, 414, 416, 487, 521
- Iron and Steel Trades Confederation in Teesside 256
- irreversibility, emerges from given situation 37
- irreversibility, externalities and institutional fit 28–9
- 'isodapanes', Weber and 57
- Israel 124–5, 320, 385, 413–15, 452–3, 517–20, 522
 - biotechnology and software incubators 522–3
 - capital–labour ratios 125–7
 - high-tech mini-clusters 268
 - incubators 452–3, 519
 - Model 1 and homogenous specification 128
 - Model 2 human capital allowed to vary by region 129
 - Model 3 the most heterogeneous form of estimation 129
 - observations on six regions for 12 time periods 127–8
 - private technological incubators 519–20
 - spatial panel data 125
 - venture capital 320, 518, 520
- Israeli Public Technological Incubator Program 517–18, 523
- Italy 188
 - 23 districts analysed 92–4, 97
 - ceramic tile industry 305
 - CERVED archive and IDs 92, 97
 - economies of scale in large corporations 2
 - Emilia-Romagna and Tuscany 2
 - empirical case studies 549
 - fashion designers 591
 - governance types 536
 - IDs 78, 80, 82, 85, 90–91, 95, 298, 322, 342
 - internationalization of 95
 - industrial districts 200, 293
 - Lombardy 9, 532, 590–94
 - Lux Ottica 92, 94, 95
 - Milan and personal relationships for design 286
 - north-east and central 247
 - northern and industry 282, 289
 - Piedmont 150
 - Prato Chinese district 306, 313, 337
 - 'real service' to SMEs 530
 - study of industrial districts 158, 536
 - technological incubators 516
 - 'Tuscan', 'Emilian' and 'Marche' models 267
- Jacobian tradition, knowledge transfer and 119
- 'Jacobs externalities' 58–9, 104, 181, 187–8, 190, 373
- Japan 74, 80, 217, 276, 409, 413, 428
 - Flamenco 359
 - ICT 410
 - lean production 383
 - point-of-sale (POS) system 368–9
 - technological incubators 516
- JTH experiment, modified, citations of patents of mobile inventors 138
- JTH results 136–7
- Jutland 11, 338, 444
 - energy 442–3
 - forestry 183
 - wind turbines 17, 442
- k-innovations 40–41
- 'Keep It Simple Stupid' (KISS principle) 41
- knowledge
 - bedrock of innovation 125
 - public nature of 224

- source of regional economic development and growth 222
- 'sticky' properties 222
- transferred by individuals 136–7
- knowledge capabilities, residing in networks and open innovation 396
- knowledge circulation, complementary to that across regions 148
- knowledge diffusion processes 110
- knowledge economy 169
 - competitive advantage of nations 270
 - demise of Fordist model 160
 - economic development across the globe 606–7
 - regional development mixed 604
 - weightless products of 547
- 'knowledge entrepreneurs', dealing in intellectual property 416
- knowledge externalities, source of regional productivity gains 129
- knowledge filter theory 110
- knowledge flow, decreases with social distance among inventors 138
- knowledge flows
 - agglomeration externalities literature and 189
 - characterized as spillovers 132
 - global map of 174
 - increasingly international 424
 - not only spatial but socially bounded 140
 - reason they are spatially bounded 136
- knowledge generation innovation 120
- knowledge labour, major outflows and inflows 30
- knowledge links, four types 459
- knowledge sharing, dilemmas of 223
- knowledge spillovers 50, 103–4, 122, 182
 - agglomeration of economic activity and 63
 - difficult to trace 129
 - geographically localized 187
 - localization of 137–8
 - mechanisms of 227–8
- knowledge transfer, challenge to investigate key mechanisms 195
- knowledge-based 'gatekeeper' firms, knowledge filters empirically through 184
- knowledge-based innovation
 - territorially embedded process 226
 - three theoretical approaches 226–7
- knowledge-intensive business services (KIBS) 335, 366, 384–6, 390, 588
 - importance of geographical proximity 388
- Korea 321
- labour market 'churning' mechanism 124
- labour mobility 119, 124, 193
- Lancashire, textile industry 540
- Latin America 521
- lead firms, role to 'pollinate' the local context 175
- lead markets, healthcare and education 588
- leadership, problem of overpersonalized 20–21
- 'lean production' 7, 15, 337, 383
- learning
 - concept, institutional aspect 49
 - from both success and failure 605
 - in a milieu 113–14
 - outcome of social capital 290
- learning by doing 5, 28, 121, 183, 346, 470, 489
- 'learning by interacting' 183, 470
- 'learning', 'creative' or 'innovative' region 121
- learning regions 530–31
 - concept of endogenous regional development 552
 - contemporary views of 552
 - definitions 548
 - discussion and conclusions 552–4
 - founding fathers 548–51
 - TIMs 547
- Lehman Bros 20
- Leontief paradox 68
- less-favoured region (LFR) 547, 550–51
- lifelong learning 111
- Limburg, coal mining region prospers 16
- Linwood and Bathgate, path-dependence and 183
- Liverpool–Manchester railroad 37
- 'living laboratory' 309, 532, 579
- local amenities, to encourage socialization and networking 290
- local milieu 113
- local *recentre* of social organization 80
- localization economies, agglomeration economies 487
- localization externalities, scale economies and 246
- localized knowledge spillovers (LKS) 270–71
- locally based determinants of entrepreneurship, neo-Schumpeterian accounts 251
- location and 'anchoring' of lead firm, beneficial 173
- location process, nature of tacit knowledge 270
- location theory 55–6
- locational evolution 27–8
- 'lock-in' 79, 104, 106, 201, 471, 576
- 'lock-out' of firms, not investing in absorptive capacity 184
- London 144, 336, 385–6

- long-wave-inducing innovation 13
- low-wage destinations, production shifted to 68
- lower communication costs 54
- Lower Silesia 538
- machine-tool industry, mobility of mature industries 72
- macroeconomics growth literature (1960s) 212
- 'Made in Italy' districts 96
- mail-coach firms 35–6
- Management Leader Group, connected to ENP 511
- manufacturing *filières* 81, 87
- MAR 104–6
- Mark I model, model of economic evolution 38, 40–41
- Mark II model, innovative oligopolistic competition 38–40
- 'market failure', innovation debate and 460
- 'market processes', not suitable for sociological study 156
- market relationships, networks and 159
- 'Marshallian industrial district' (MID) 78–80, 83–6, 87, 90, 168
- Marshall's triad of external economies of industrial localization 247
- mass immigration, may not have adverse effect on manufacturing 124
- Massachusetts
 - decline of computer business 283
 - services innovation 386
- Massachusetts Biotechnology Council 20
- Massachusetts Institute of Technology (MIT) and Stanford 315–16, 387
- matrix thinking, use twofold 582–3
- mature clusters, three characteristics 297–8
- 'mature' IDs 78–83, 86
- mature Western IDs 91
- measurement of knowledge flows 136
 - evidence from surveys 139
 - markets for technologies 137
 - mobility of skilled workers 136–7
 - social networks 137–9
 - use of patent citations 136
- mergers and acquisitions (M&As), technologically related knowledge bases 190–91
- Metropolis 1985 study 7, 67–9, 72
- metropolitan areas, large have more inventors than smaller 139
- metropolitan statistical areas (MSA), new products at level of 134
- micro-nationals 416
- microelectronics, Sematech and research 284
- Middle West, railroadization 34
- migration, human capital investment decision 123
- milieu, 'cognitive engine' 113
- milieu innovateur* theory (1980s) 113–14
- mobility 173, 175–6
- Model 'T' Ford 37
- 'mooring', to access embedded knowledge 172
- multilevel governance, long-term vision and strategy-making 606
- multilevel governance systems, important role 537
- multinational corporations (MNCs) 428
 - dominate marketplace for technologies 424
 - more 'technical push' than 'market pull' 589
- multinational enterprises (MNEs)
 - generators of new knowledge 151
 - geographical reach by overseas subsidiaries 69
 - 'internal' actors 149
 - new sources of cheap labour, capital and land 81
 - purchasing R&D 371–2
 - spur diversification of regional knowledge base 150
- multinationals
 - concentrate FDI on sectors with low R&D 73–4
 - shift manufacture of products 69
- nanotechnology, cutting-edge research and 317, 411
- national competitiveness, move from obscurity to meaningfulness 235
- national innovation system (NIS)
 - difference between countries 455
 - framework for science and technology 315
- national innovation systems (NISs) 420, 463
- national systems of production, national institutions and 45
- national-specific factors, role in shaping technological change 420
- neo-mercantile image of international trade, zero-sum game 235–6
- neo-Schumpeterian, concerns about innovation and policy 182–3
- neo-Schumpeterian perspective, commercialization of new knowledge 44
- neoclassic theory, labour migration and rate of economic growth 123
- neoclassical approach, innovation as an exogenous variable 43
- neoclassical modelling, agglomeration and 61
- neoliberal epoch 9, 588

- 'neoliner' innovation models 8–10, 19, 587, 594–5
- Netherlands 16, 188, 400–403, 412–13, 434, 600
- network, reciprocal linkages and 49
- network evolution over time, analysing 161
- network paradigm, corporate and spatial dimensions of 48
- network position, firms' characteristics and 161
- network systems of governance 536
- networked regional innovation environment, five dynamic capabilities 568
- networks
 - advantages in innovation processes 156, 161
 - benefits associated with 223
 - different forms and structures 231
 - dynamic systems 231
 - forms of learning in 228
 - four dimensions 105
 - knowledge diffusion and 193
 - knowledge-intensive exchange 227
 - proximate relations between economic actors 222
 - proximity and 225
 - spatially grounded 48
 - stronger strategic behaviour of firms within 224
- networks of innovation 155–6
 - degree of formalization 156–7
 - geographic scope 157–8
 - method or approach to analysis 157
 - types of actors 157
- 'Neutron Jack' Welch (CEO General Electric) 19–20
- 'new', restricted sense of 72–3
- new cluster theory, 'old' agglomeration theory and 63–4
- new economic geography (NEG) 5, 60–61, 119–20, 265, 269
- new equilibrium, mix of railroad and horses 35
- new era of capitalist economic development (1970s) 246
- new firms, entrepreneur with pre-entry background in industry 190
- new forms of FDI in the knowledge economy 412–13
 - entrepreneurship by R&D FDI centres 414–15
 - financial FDI 413–14
 - micro-multinational firms 415–16
- new growth theory (NGT) 6, 103, 119–20
- 'new industrial districts' 246
- new industries, ICT and biotechnologies 170
- new industry, anchoring, transforming mobile into immobile factors 172
- new knowledge 63
- new labour-saving devices 68
- new Marshallian districts, learning systems 97
- 'New Men' 38
- new millennium, culture as strategic resource 350
- new path creation, path-dependent process 204
- new principle, invention of is rare event 72
- new products, enhancements of existing products 72–3
- new regional development paths 203–4
- 'new regionalism' literature 227
- new technology-based firms (NTBFs) 315, 319–20
- 'new trade theory' 60
- New York
 - competitiveness, difficulties of explaining 67
 - failure of optronics cluster 594
- newly developing countries, unspecialized IDs 95
- newly industrialized countries, developed countries and 270
- newly industrializing countries (NICs) 547
- NIRAS consultants 443
- non-governmental organizations (NGOs) 438
- Nordic countries 8, 183, 296, 304, 570, 590
 - 'green innovation' 17
- North America, industrial districts 158
- North Carolina, Research Triangle Park 315, 319
- North Jutland 183, 443
- North-Rhine Westphalia 536
- Northern Ireland 487
- Norway 299, 568
 - locally based TIM 550
- OCS 517, 520, 523
- OECD 218
- OECD–EU policy model, high-income agglomerations and 72–3, 75
- Office of the Chief Scientist, *see* OCS
- Ohio greenhouse cluster 229
- 'old institutionalism' 251
- old Marshallian model 90
- open innovation
 - corporate outsourcing 336
 - importance of global competitiveness of RIS 395
 - relatively new model 403
- opportunistic behaviour, isolation and punishment for 115–16, 534

- orchestration 583
 - awareness that process may affect innovation environment 412
 - model subject to continual review 580
 - regional innovation 450
 - role of 21, 30
- organizational learning 228–9
- organizational proximity 274
- Oslo, lock-in favouring traditional oil-rigs 267, 299
- outsourcing 14, 313, 395
 - cars 74
 - decentralized production 7–8
 - industrial R&D 365
 - international, strategy of diffusion 96
 - specific tasks and 75
- Oxford's Motorsport Valley 248, 253–4, 318, 321, 385
- 'The Packaging Arena' (TPA) 311
- paradigm, denotes 'dominance' 19
- 'paradigm shifting' 7, 10–11
- partial equilibrium model, Weberian model 57–8
- Patent Act (1972) 426
- patent citations 136
- patent data 161
 - innovation and 133, 270
- patenting activities 109
- patents, only small proportion are commercialized 285
- path-dependence
 - across different industries, need not be isomorphism 200–201
 - arising in economic history 181
 - depth, memory in regional development process 202
 - 'foundational concept' 198
 - identification of policy action 207
 - strength of historical causality 201
 - two main types 205
- path-interdependence or holistic regional evolution 449
- paths to cultural enhancement 352
 - cross-fertilization 355–6
 - cultural enhancement of economy 354
 - economic enhancement of culture 352–3
 - economic renewal 355
 - serendipity 256, 356
 - urban renewal 354–5
- pecuniary externalities 59, 61–2, 103, 106, 135–6, 168
- performance of sampled district firms (2000–2002) 93
- peripheral regions, less capacity to absorb knowledge 605
- pharmaceuticals, direct supplier industry of public healthcare 588–9
- place-based policies, support disadvantaged areas 601
- 'platform' concept, regional innovation and renewal 531
- platform model, regional intercluster 577
- 'platform' model of regional innovation, characteristics of 532
- 'pole' concept, transformed from French to English connotation 63
- poles of growth (*'pôles de croissance'*), economic growth 61
- policy-driven ties, networks and 159–60
- Portland's high-tech industries, Intel and Tek Tronix 171
- Portugal 2, 80
- positive externalities 54
- post-Fordist economy 167, 246, 253, 259, 424
- Post-it note, classic 'useful innovation' 576
- post-Schumpeterian researchers 32
- private incubators, differ from public ones 453
- PRO INNO innovation policy initiative 600
- process innovation, involves labour-shedding 4–5
- Proctor & Gamble 395
- product cycle
 - two Vernons 69
 - what is left of Vernon's regional version 71
 - filtering down 73–4
 - new products and importance of dominant design 72–3
 - where does innovation occur? 71–2
- product innovation, creates employment 4
- 'product life cycle' 30
- product or process innovation of firms (2004–06) 384
- product-cycle hypothesis 67, 75
 - Vernon and 68
- product-cycle literature, demand elements in 70
- production
 - concentrated in industrial districts 2
 - reagglomeration of 246
- productivity gains, knowledge and commercial exploitation 4
- productivity growth, between US and EU 5
- proximities and internal–external interactions 277
- proximities to proximities 277
- proximity
 - deals with coordination 276
 - diverse forms 563

- important to user-driven innovation and creativity 286
- key concept 439
- reduces uncertainty in innovative activity 123
- 'umbrella' concept, four functions 556–7
- proximity approach, isolates two key dimensions of complexity of knowledge base 271
- proximity and distance
 - dimensions of 558–9
 - theories and frameworks 560–62
- proximity and innovation, relationship between 265
- Proximity School 265
- public sector support, cluster associations and 289
- 'punctuated equilibrium' 205–6
- 'punctuated evolution', 'creative destruction' and 15
- pure and pecuniary externalities, distinction between 135
- 'quality of place' 393
- questions and open debates
 - articulating approaches, articulating levels 278
 - determination of knowledge 278
 - local and the global 277
 - negative effects of proximity 277–8
 - proximity and internal/external interactions 277
 - proximity to proximities 277
- QWERTY keyboard 12–13, 16, 201
- R&D 7, 17, 50, 62, 96, 104, 109, 110, 112, 114–15
 - based clusters 294–5
 - development 335
 - fine-tuning of national 598
 - functions of TNCs 549
 - geography proximity and 265
 - government centres 124
 - hypothesis 218
 - incubator projects and 126
 - industrial relations and 535
 - institutes 293
 - intensity 133, 135, 225
 - international 462
 - investment in 212–13, 216
 - laboratories 587
 - locations of new sites 320
 - low activity in Oslo firms 299
 - networks 395
 - organizations 211
 - pecuniary 266
 - private 134, 140, 217, 226
 - role in building absorptive capacity 214–15
 - services 429
 - of spillovers 132
 - teams 229
 - technological clusters and 316
 - university spending 135, 296
 - US consortia 284
- radical innovation 10, 11–14, 146
- 'railroadization' 28, 33–4, 36, 40
- RDPM 564, 567
 - eight phases 568
- 'real services' 539
- recent developments and challenges 462–3
- recent path-dependence, form of historicity 202
- 'recombinant methods' of innovation, spatial process concept 575
- recombination, crossing 'structural holes' and filling 'white spaces' 577
- 'Red Flag Act' 12
- 'regime-push' 14
- regional, focus of 49
- regional absorptive capacity 149
- regional advantage, regional competitiveness and open innovation 392
 - competitive advantage 393–4
 - interregional 393
 - intraregional 392–3
- regional anchors 167, 170–71
- regional capabilities, regards knowledge complementarities 147
- regional cluster of flamenco 357, 360
- regional clusters
 - decline of and concept of negative lock-in 298
 - networks and 157
- regional comparative advantage 172
- regional competitive advantage
 - clustering externalities and 239
 - theory of heavily criticized 237
- regional competitiveness
 - determined by productivity 236, 239
 - no clear definition 235
- regional conditions of entrepreneurship 484
 - compositional factors 484–5
 - contextual factors influencing individual entrepreneurial decision 485
 - entrepreneurship as organized product 486
 - entrepreneurship as social (family) phenomenon 485
 - nature and localization of industries 487–8
 - regional access to financial capital 489–90
 - regional culture 488–9

- regional knowledge production 489
- urbanization 488
- regional cultural economy, learning, innovation and development 248
- regional culture, ethereal and eternal 253
- 'regional culture of production', dimension of comparative advantage 185
- regional culture structures, innovative activity in some regions 253
- regional development, stickiness of innovation 285
- regional development agency (RDA), catalyst for innovation 312–13
- Regional Development Centre Programme 568
- regional development platform method 305–7
 - constructing regional advantage 309
 - regional development methodology 307–8
- regional development platform implementation 308–9
- regional development theory 307
- regional dynamic comparative advantage 241–2
- regional economies
 - competition and 235
 - subject to structural change 189
 - 'unbounded view' 605
- regional governance
 - policy learning and 529–31
 - variability in powers of 18–19
- regional governance structures, 'output'
 - regional collective goods 542
- regional governments, three key roles 538
- regional growth 74
 - how open innovation can be identified 391–2
- regional industrial agglomerations, threefold argument 248–9
- regional industrial systems, gendering of innovation and learning 257
- regional inequalities 121
- regional initiatives, tied to EU's innovation and competitive policy 597
- regional innovation
 - role of social capital 266
 - Schumpeterian origins 27
 - taught in universities 1
- regional innovation governance, challenges for 542–4
- regional innovation intermediaries
 - role of 467–8
 - table 471–3
- regional innovation intermediaries at work in Europe 474–5
 - case of regional innovation intermediaries in Wallonia 475–9
- regional innovation platform model 556
- regional innovation quadrants 581
- Regional Innovation Strategies/Regional Innovation and Technology Transfer Strategies, *see* RIS/RITTS
- regional innovation system, *see* RIS
- Regional Innovation and Technology Transfer Strategies (RIS-RITTS) programme 600
- regional innovation theory
 - Marshallian and neo-Marshallian perspectives 30
 - and tailored empirical research 18
- regional innovations systems issues 449–51
- regional knowledge
 - anchoring capacities 174
 - contrasts in 450
 - generation 538–9
 - spillovers and 123
- regional literature, filtering-down process 70
- regional 'lock-in' 308
- regional networks
 - not self-contained and self-sufficient entities 230–31
 - transregional flows of knowledge 230
- regional open innovation, can be double-edged sword 402
- regional path-dependence, 'depth' is of importance 207
- regional path-dependence concept 199–200
- regional policy and incentives 407–8
- 'regional regime', variety, cluster evolution and 267
- regional science, regional innovation systems and 2
- regional services innovation 380
- regional socio-technical paradigm changes 16
- regional specialization, regional anchor and 171
- regional systems of innovation, *see* RSIs
- regional variations in new firm formation, differences in regional industries 487, 490
- regional variety, different forms of 147
- regional venture capital, policies towards 501–2
- regional worlds of innovation 336
- regional worlds of production 341–5
- regionally specific cultures, importance of 247
- 'Regions for Economic Change' (RfEC) 600
- regions of high-related variety, 'biotech clusters' 387
- related diversification, regional level 191
- related variety
 - allows higher absorptive capacity of regions 300
 - driver of innovative capability 563
 - implications of 574–5, 583

- spatial externalities literature 188
- treated as static and given 189
- two things of importance to 303
- relatedness, knowledge spillovers and 187
- 'relative absorptive capacity' 213–14
- relocation, globalization challenges 82
- Renfrewshire and East Lothian (Scotland), late path-dependence 182–3
- revolutionary innovations, implemented in new agglomerations 71
- Ricardian comparative advantage, incomplete explanation for competitiveness 238
- RIS 169, 455, 541
 - consists of institutional infrastructure 64
 - differs from NIS 421–2
 - failures 460
 - governance and business structure 50
 - must be innovation-prone 315
 - narrow and broad definition 296–7
 - relevance of regional networks of firms 49
 - roots in innovation system approach 217
 - systematic framework for development of 569
 - two subsystems 293–4
 - types 463
- risk capital proximity, 'convention radius' 452
- risk-finance, dried up 310
- RISS and nature and geography of knowledge flows 458–60
 - role of the state 460–62
- rivalry and competitive advantage, Porter and 306–7
- 'Romer externalities' of urbanization 181–2, 187
- rotating leadership 20
- Royal Bank of Scotland 20
- RSIs 149–50
- rules and conventions, important for four reasons 602
- S&T intermediary system in Wallonia 476–7
- Salt Lake City 248
 - Mormon ethics and 254
- San Diego and Boston, local universities
 - anchoring players 170–71, 319
- scale economies 54
 - externalities and 58–9
 - Marshall and 55–6
- Schumpeterian disequilibrium and
 - evolutionary perspectives 29, 451
- science and technology (S&T) policy 51
- science-based methodology, competence centre and 230
- science-intensive innovation activities 4
- Scotland 416, 487, 498
 - sectoral and functional approach 107–8
 - sectoral innovation systems (SISs) 463
 - sectoral system of innovation, definition 48
 - securitization, first collateralized mortgage bond (CMB) 9
 - self-employed parents, positive effect on offspring 485
 - semiconductor patents 136, 319
 - service industries, innovation in 335–6
 - service industry innovation, quite extensive 389
 - service innovation 363
 - expanding notion of innovation 366–7
 - R&D and service innovation 365–6
 - reverse product life-cycle theory 366
 - what is service innovation? 364–5
 - what is service? 363–4
 - service innovation and regions 372–4
 - services geographical proximity, enhances knowledge spillovers 386
 - services innovation, regional dimension 384, 386
 - services and manufacturing, borderline can be fragile 383
 - Services, Science, Management and Engineering (SSME) 375
 - services-oriented architecture (SOA) 367
 - Silicon Valley 4, 11, 18, 161, 182, 190, 199
 - active networking and 318
 - agglomeration of industries 514
 - biotechnology and 395
 - evolved through ICT 317
 - high-tech clusters 159
 - immigrants and open boundaries 393
 - innovative region 582
 - interpersonal world 342
 - learning region 552
 - new Argonauts 258
 - open information flow and learning 392–3
 - R&D 321
 - regional development 248–50
 - research university and 296
 - satellite status 385
 - services innovation 386
 - social capital and 287
 - successful growth of 253, 315
 - venture capital 320, 324, 498, 500
 - Silicon Valleys of dissimilar types 54
 - Silicon Valley's exceptionalism 185–6
 - Silicon Valleys and Research Triangles 129–30
 - 'simultaneous engineering', matrix management 8
 - Singapore 537
 - Slovenia 537
 - small and medium-sized enterprises, *see* SMEs

- smart specialization 605–7
- SMEs 2, 7, 30, 71, 78, 81–3, 85, 289, 474
- Chinese in Italy 337
 - clustering and embedding practices of 598
 - collocation and 226
 - FDI and 407
 - quality products and 295
 - venture capital and 501
- SNA, economic geographers and 162
- social capital
- can reduce transaction costs 297
 - embedded in memberships not community or region 289
 - impact on learning and innovation 282
 - limitations and cost of 288
 - measurement of 266
 - must encompass global pipelines and local buzz 291
 - outcome is innovation 284
 - racial inequality and? 288
 - societal actors and 535
 - stimulates cooperation 266–7
- social capitalism, less-favoured and less-populated regions 290
- ‘social filters’ 227
- social network analysis (SNA) 157, 162
- social ties, networks and 159
- socio-cultural ‘innovative milieu’, ‘nexus of untraded interdependencies’ 252–3
- soft-institutional ‘conventions’ issues 449, 453
- Software as a Service (SaaS), ‘virtual businesses’ and 415
- Software Technology Parks (STPs), India 427
- solar energy, now uses thin-film polymers but also silicon 310
- Sophia-Antipolis 161
- South East of England 150
- South Korea 258, 516
- Southeast Asia, consumer electronics and 74
- Southern California 536
- space, source of knowledge creation 113
- Spain 2, 80, 188
- Andalusian culture 334–5, 350, 357–60, 371
 - economía de la fiestas* 357, 360
 - Feria de Abril 357–8
 - Museo del Baile Flamenco (Museum of Flamenco) 358–9
 - Semana Santa festivities 358
 - technological incubators 516
 - Zara 368
- spatial clustering, understanding goes back to Marshall 64
- spatial clustering of persons, advantages of 56
- spatial externalities, labelled localized economies 187
- spatial proximity, venture capital and 489
- spatial spillovers, Marshallian externalities and 122
- spatially bounded knowledge 228
- specialization, versus diversification 143
- specialization and diversification, dynamics of growth and agglomeration 181
- specialization and diversity, cumulative path 150
- specialization of venture capital firms, building up competencies and 500–501
- specialized knowledge, European and Japanese firms 71
- specialized labour markets, localized 56
- Standard Industrial Classification (SIC) 188
- standardization phase, ‘less developed countries’ start production 69
- star scientist, external knowledge from 137, 228
- static knowledge exchange 459
- Stockholm, ICT cluster 318–19
- ‘strategic niche management’ 10–11
- structural approach 107, 110–11, 115
- ‘structural holes’ or ‘white spaces’ 573
- structural unemployment, if no increase in variety of industries 483
- subprime mortgage demand, Florida and California 9
- sustainability, regions seek 10
- Sweden 2, 17, 188, 191–2
- IDs 80
 - incubation and 453
 - knowledge-intensive industries 505
 - Packaging Arena laboratories 311, 383
 - Skåne and ‘white spaces’ concept 585
 - study of different sectors of 47
 - Värmland in 183, 311, 579
- Switzerland 2, 106, 175, 251, 395, 553
- system failures, four types 469–70
- systems of innovation approach, nature of systemic interactions 43–4
- systems of innovation perspective 45
- national systems of innovation 45–7
 - regional systems of innovation 48–51
 - sectoral and technological systems of innovation 47–8
- tacit knowledge 121, 172
- Taiwan 258, 320–21, 393, 412
- Hsinchu Science-based Industrial Park (HSIP) 323
- ‘tangible’ and ‘intangible’ resources, culture and 35
- Tasmania 568
- tautological reasoning 111

- 'technical push' and 'market pull' 587
- technological change
 - cumulative and irreversible character 44–5
 - foreign firm and 171
 - formal economic modelling 63
- technological change and economic growth, neo-Schumpeterian approach 65
- technological complexity, renewal frequency of knowledge base 271–2
- technological development, cyclical process 205
- technological externalities 59, 63
- technological filières 108–9
- technological incubators idea 515–17
- technological innovations (2000–2003) 94–5
- technological paradigm shifts 16, 169
- technological relatedness, might be relevant 189
- technological specialization 55
- technological systems, focus of 47–8
- technologies
 - common structure 44
 - transferred to subsidiaries are about ten years old 71
- technology, key elements of knowledge, skills and artefacts 44
- technology clusters
 - complex 324
 - immature stages of 'cluster life cycle' 268
 - tied to early stages of industry life cycle 315
 - 'well-functioning' RISs 316
- technology spillovers 145
- technopoles, 'cathedrals in the desert' 171
- technopolis, 20 to 30 years to develop 324
- territorial innovations models, *see* TIMs
- theoretical perspectives 435
 - co-evolutionary transition theory 437–9
 - urban regime and ecological modernization theory 435–7
- theory of land rent 54
- 'Third Italy' 2, 30, 79, 266–7, 295, 297
- TIMs 547–8, 550, 551, 554
- towards regional innovation platforms 560–69
 - Regional Development Platform method in Lahti Region Finland 564–9
 - two models of regional innovation 560–64
- Trade Related Intellectual Property Rights (TRIPS) 423, 429
- translocal specific public goods 86–7
- transmission of ideas, interfirm mobility of workers 283
- transnational companies (TNCs) 549
- transnational corporations (TNCs) 427, 429
- transversality 106, 182–3, 309–10
 - 'joined-up governance' 268
 - quest for found new literature on 'policy mix' 310
 - role of RDAs 313
 - source of useful interaction among firms 580
 - spatial process concepts and 573, 583
 - variety of types 310–13
- transversality and platforms, two elements of regional innovation thinking 303–4
- 'Triple Helix' 396, 411–12, 421, 512
- Turkey 188, 453, 516
- tweeting, important complement but does not replace talking 291
- Twente 317
- UK 188
 - automobile sector 199
 - clean energy clusters 204
 - light industry in old industrial regions 16
 - media companies in East and West Sussex 286
 - Merseyside Rainhill Trials 383
 - National Endowment for Science, Technology and the Arts (NESTA) 384
 - regional policy 389, 548
 - spillovers and 218
 - technological incubators 516
 - technology transfer a third stream for universities 321
 - Training and Enterprise Councils (TECs) 588
 - West Midlands automotive industry 8, 183
 - West Midlands and North West 150
- uncodified knowledge, imitation and reverse engineering 109
- United Nations 191, 360, 406
- universities
 - anchor tenant 170
 - entrepreneurial opportunities 110, 489
 - important mechanisms, convention sets not profit-motivated 453–4
 - three functions of 319
- universities and venture capital, role of 316
- University of Birmingham, Services and Enterprise Research Unit 375
- University of California
 - semiconductors and computer science 296
 - SSME program 375
- university laboratories, localized knowledge spillovers 133
- university research, 50 miles from MSA 134
- US 68–9, 94, 321
 - automobile industry 199
 - banks buy more computers than European 381

- basic spatial unit of analysis 133–4
- ‘bioscience megacenters’ 317, 415
- Capitol biotechnology cluster in Maryland 295
- clean energy clusters 204
- clusters of innovation in five metropolitan areas 284
- distance knowledge can travel 228, 230
- foreign investment mainly from 408–9
- high-tech locations 186
- Private Industry Councils (PICs) 588
- Stanford Industrial Park 322
- Technological incubators 452, 453, 516, 531–2
- Troubled Relief Programme (TARP) 20
- US–India Bi-National Science and Technology Endowment 429
- US–India Defense Relationship 429
- user needs, marketing manager and 8
- user producer innovation 14–15
- user-driven innovation 10, 589
- venture capital, geographically skewed 320, 452, 495, 497–8
- venture capital market, certain inertia 502
- Wal-Mart, ‘every-day-low-price’ (EDLP) 368, 373, 440
- Wales 384, 408–9, 439, 487, 498, 538, 550
- Wallonia, regional intermediaries in 475–9
- waste recycling 434, 588, 595
- waveform economic evolution 28, 33
- ‘white spaces’ or ‘structure holes’ 576
- ‘work–life balance’ (WLB) arrangements 257–8
- workshop systems, Industrial Age 18, 28, 79
- World Trade Organization (WTO) 423, 429
- worlds of production 334, 339, 340, 347–8

